RTI Team Problem Solving

Team Structure

Team Process:
IDEAL

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Problem Solving

- Uses scientific method
- Data feedback loop
- Data-based decision making
  - Eliminates bias
  - Takes subjectivity out of decisions
- Can be applied:
  - System vs. individual level
  - Regardless of "presenting problem"

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The RTI Process: A System of Instructional Supports GUIDED by Assessment Data

Problem Solving Team

IEP

Intensive

5%

5%

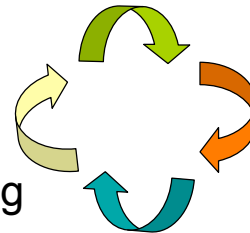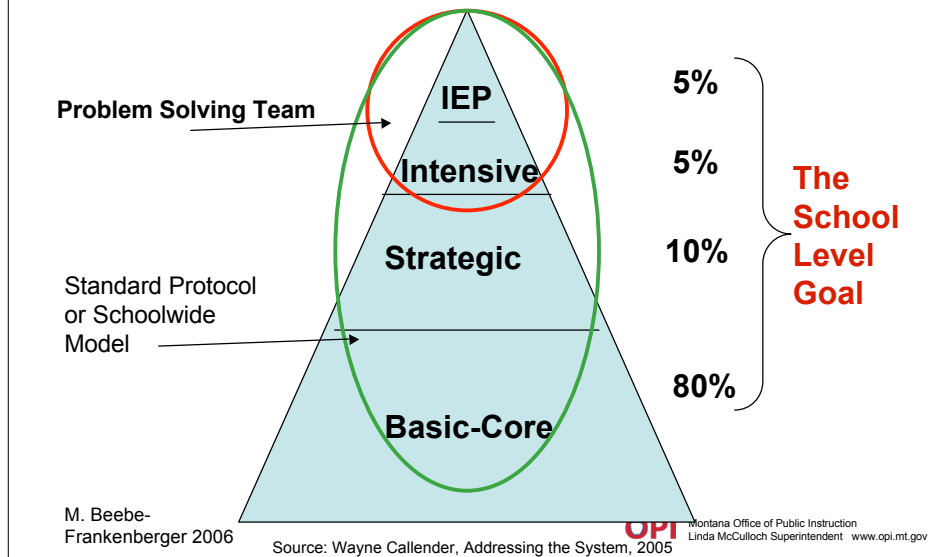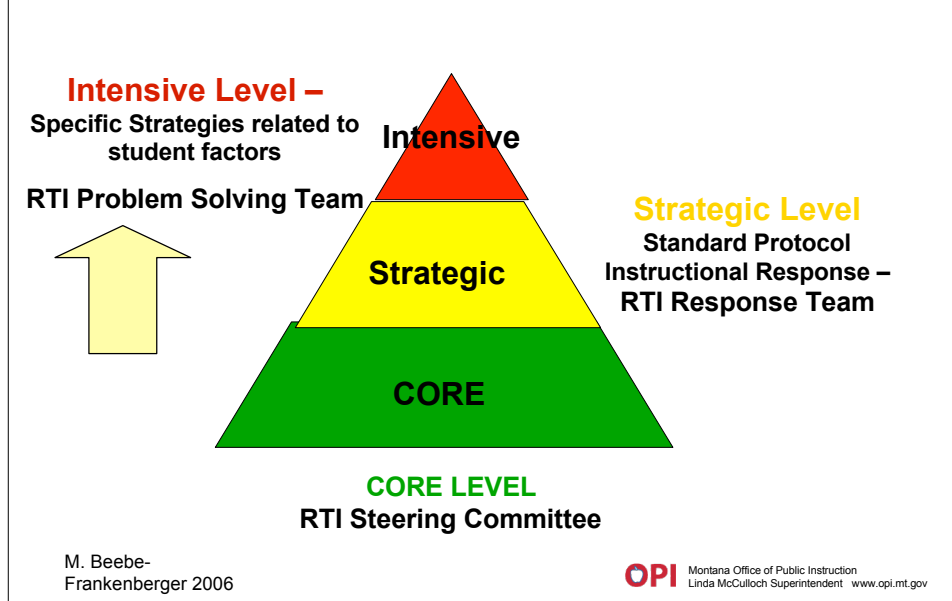Standard Protocol or Schoolwide Model

Strategic

10%

The School Level Goal

Basic-Core

80%

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Source: Wayne Callender, Addressing the System, 2005

RTI Team Structure

Intensive Level –
Specific Strategies related to student factors

RTI Problem Solving Team

Intensive

Strategic Level
Standard Protocol Instructional Response – RTI Response Team

Strategic

CORE

CORE LEVEL
RTI Steering Committee

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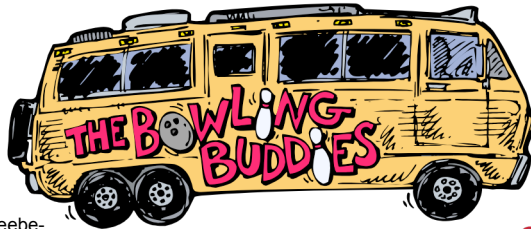Linda McCulloch Superintendent   www.opi.mt.gov

Great RTI Teams

- **Have experience & expertise**

- **Have knowledge about curriculum & classroom management**

- **Identify and access training when needed**
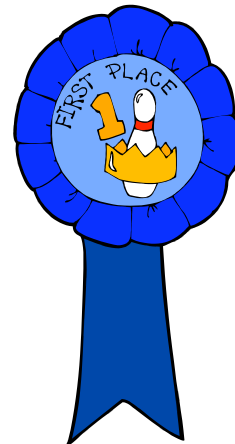
- **Represent diverse groups & grade levels**

Making Problem Solving Teams Work

✓Leadership: Time and Perception

✓Staff Assignments

✓Training

✓Intervention Implementation Assistance

✓Intervention Integration

✓Data Based Decision Making

✓Structured Meeting Process

Problem Solving Team Roles

- **Facilitator**
- **Case Manager**
- **Time keeper**
- **Recorder (Scribe)**
- **Selected team members**
  Expertise in:
  - **curriculum**
  - **classroom management**
  - **medical/health**
  - **behavior**
  - **special education**
- **Referring teacher**
- **Grade Level Representatives**

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Remembering the Basics

❑ Maintain confidentiality.
❑ Hold meetings in a timely manner (within
     two weeks of referral)
❑ Display agenda during meeting
❑ Set clear time limits.
❑ Are responsive to staff and student needs.
❑ Access and use auxiliary personnel and other
     appropriate resources.
❑ Have members that represent a variety of
     experience and expertise: knowledge of classroom
     management, curriculum and instruction, and
     student motivation.
❑Continue to stretch and grow.

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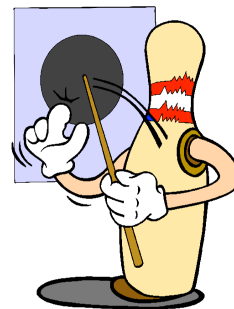Linda McCulloch Superintendent   www.opi.mt.gov

Problem Solving Team Meeting

- Include the caregiver

  - Adhere to agenda/role responsibilities

    - Define area of concern

    - Develop strategies & interventions

    - Define responsibilities

      school, parent, teacher, student
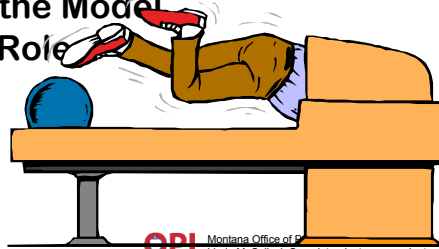
    - Schedule follow-up meeting

      (6-10 weeks)

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Before You Jump In…

- ❑ **Consider Building a Site Interventions Library**
  - ☺ **Not Everything Costs Money!**
  - ☺ **U of M and other resources!**
  - ☺ **Survey Your Building:**
    - 📂**Resources/Materials**
    - 📂**Expertise**
    - 📂**Volunteers**
- ❑ **Select and Train Progress Monitoring Tools**
- ❑ **Talk with others Using the Model**
- ❑ **Be Flexible in Defining Role**
- ❑ **Share Responsibility**

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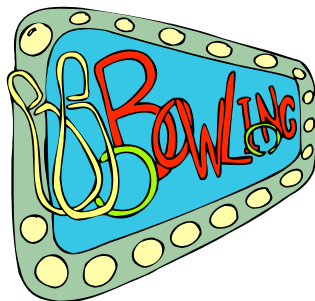Linda McCulloch Superintendent   www.opi.mt.gov

Benefits of Problem Solving

✓ Systematically Defines Levels of Need within a School: primary, secondary, and tertiary

✓ Addresses Academic and Behavioral Problems

✓ Utilizes Research Based Methods to Deliver Evidence-Based Interventions

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Critical Features of Problem Solving

- Data…data….data
- Data-driven decision making

- Problem Solving is:
  – Outcome focused
  – Data-driven
  – Links assessment to intervention
  – Context specific

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The **IDEAL**
Problem Solving Process
(RBM, Idaho; Callendar 2004)

- **I** - Identify the Problem

- **D** - Define the Problem

- **E** - Explore Intervention Options

- **A** - Act on the Intervention Plan

- **L** - Look at Results

I - Identify the Problem

- A "problem" is a general statement about a student's presenting concern

I – Components:
- Data Review
- Collaborative consultation
- Behavioral definition

Problem =

<div align="center">

What is Expected

────────────

Actual Performance

</div>

Example:

Expectation: **Expect Johnny to Read**
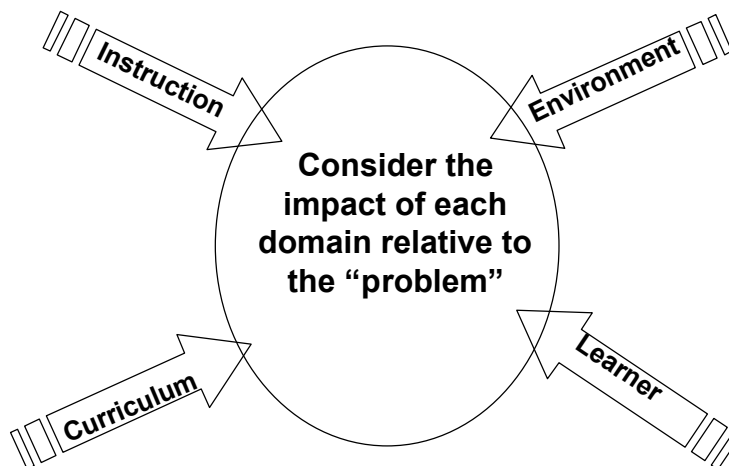
                      60 WPM with 0 Error

────────   ─────────────────

Actual Performance   **Johnny Reads**

                      33 WPM with 5 Errors

I – Component Data Review: Summarize ICEL/RIOT Data

Instruction

Environment

Consider the impact of each domain relative to the "problem"

Curriculum

Learner

Example Sources of Meaningful Data

- School policy/standards
- School records
- Teacher records
- State/District assessments
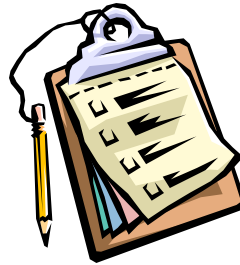- Work samples/CBA
- Portfolios
- Interviews
- CBM – DIBELS
- Observations

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I – Component:
Collaborative Consultation
in the Problem Solving Team

- Working together
- Nonhierarchical relationship
- Rust and sharing a common vision
- Open communication
- Practicing shared responsibility

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Linda M

Goals for Collaborative Consultation When Identifying the Problem

- Involve the parent
- Look at *relevant* information (only)
- Evaluate what's been already tried
- Try to identify why the problem is occurring

I – Component: Behavioral Definition

Write a behavioral definition
   of the "problem"

- Uses words to describe *observable* behavior
- Use action verbs that are observable

   Examples of **observable** action verbs: write, read orally, fill in, underline

   Examples of **non-observable** action verbs: develop, think, know, recognize, solve, learn

- Gives examples and non-examples

I – Component:
Behavioral Definition Format

_____ means that _____

name of behavior   name of learner

_____

Action verbs describing what the learner is doing

Examples include:_____

describe what is to be counted

Non Examples include:_____

describe what is not acceptable to count

Don – A Practice Scenario

- Don's lifelong goal is to become a navy seal. To qualify he must meet minimum physical eligibility requirements. Don is scheduled for a pre-qualifying physical in four months. He is currently very out of shape.

Don's Behavioral Definition

_____Out of Shape____ means that _____Don_____

name of behavior   name of learner

is overweight

Action verbs describing what the learner is doing

Examples include:_____weight in pounds

describe what is to be counted

Non Examples include:_# or pushups, body-fat, time to run a mile

describe what is not acceptable to count

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Sandy – A Practice Scenario

- Sandy is a third grade student who is struggling in reading. Her reading rate is slow as she struggles with sounding out words.

- Concern/behavior:
  - Reading fluency is much lower than her peers

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Sandy's Behavioral Definition

_____Poor reading____ means that _____Sandy_____

      name of behavior   name of learner

reads a median of 12 CWPM compared to a class median of 112 CWPM

           Action verbs describing what the learner is doing

Examples include:_____ correct words per minute CWPM

           describe what is to be counted

Non Examples include: reading comprehension, site words, 3rd grade probes

           describe what is not acceptable to count

It's Your Turn…. Use your school team's de-identified case

1. Using the data/information you brought for the case:
   a) complete an ICEL/RIOT matrix
   b) Identify additional information you need to collect
2. Use collaborative consultation to discuss referral concern, data, and form the problem definition
3. Write the behavioral definition on the RTI Team PROBLEM SOLVING Intervention Plan (I-Plan)

Teams Definitions

- Share
  - the "referral problem" – concern
  - Your behavioral definition

- Discussion

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D - Define the Problem
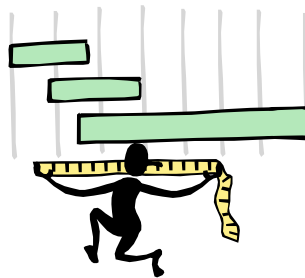
- **D** – Components:

- Measurement Strategy

- Present Level of Performance

- Problem Analysis

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D – Component: Measurement Strategy

- A measurement strategy is a procedure used to collect individual performance data.

Characteristics of Good Measurement Strategy

- Systematic
- Reliable
- Valid (Concurrent, predictive, treatment)
- Regular and frequent analysis of performance over time
- Simple to use
- Time-efficient

Measurement Decisions Grid

Decision 1	Decision 2
How will data be collected?	What materials will be used/needed to collect the data?
Decision 3	**Decision 4**
Where (setting) will we collect the data?	Who will be responsible for collecting the data?

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Don's Behavioral Definition

_____Out of Shape_____ means that _____Don_____
name of behavior   name of learner

is overweight

Action verbs describing what the learner is doing

Examples include:_____weight in pounds
                        describe what is to be counted

Non Examples include:_# or pushups, body-fat, time to run a mile

describe what is not acceptable to count

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Don's Measurement Decisions Grid

Decision 1	Decision 2
How will data be collected?	What materials will be used/needed to collect the data?
Event: Weigh Don	Scales
Decision 3	**Decision 4**
Where (setting) will we collect the data?	Who will be responsible for collecting the data?
Bathroom	Don

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Your Case
Measurement Decisions Grid

Decision 1	Decision 2
How will data be collected?	What materials will be used/needed to collect the data?
Decision 3	**Decision 4**
Where (setting) will we collect the data?	Who will be responsible for collecting the data?

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D – Component:
Present Levels of Performance (PLOP)

- Present Levels Of Performance (PLOP) describes an individual's baseline level of performance in a target behavior (academic or behavioral) at a specific point in time.

- Example:
  - Currently, Jeffrey can read 45 WPM with 4 errors which is at the 10th percentile compared to his peers. Students his age are expected to read at a rate of 100 WPM with 3 errors to achieve performance at the 50th percentile.

Benefits of Collecting PLOP Data

- Provides a benchmark/baseline against which subsequent performance can be compared.
- Helps to set challenging, achievable goals that compare the individual to him/herself.
- Compare the individual with other standards:
  - Peer expectations
  - Teacher expectations
  - School rules/expectations
  - Performance standards (CBM, CRTs, ITBS)

4 Steps for describing PLOPs

1. Collect baseline data
2. Summarize that data
3. Choose a performance standard
4. Evaluate your data

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Step 1: Collect Data

- Behavioral definition to define what we will measure,
  - e.g. "Reading"
- Choose a measurement strategy,
  - e.g. (event) words read correctly
- Collect enough data to be
  - Stable
  - representative

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Data should be……..

- **Stable**

  - 3-5 measures that…

  - Are collected in appropriate setting(s)

  - Are collected within a relatively short time

  - e.g. 3 CBM 1 min. reading probes

- **Representative**

  - Teacher says are "typical" and……

  - Accurately describes the behavior as it naturally occurs

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Step 2: Summarize the Data

Use a *median* score (Median = middle)

16,22,23………………………median = 22
114, 136,140………………..median = 136
100, 107, 107………………median = 107
32, 32, 32……………………median = 32
20, 24, 30, 31………………median = 27
65, 72, 80……………………median = ____
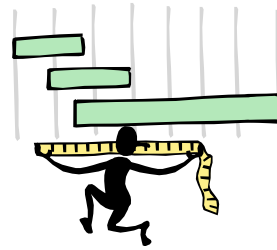48, 61, 62……………………median = ____
91, 92, 94, 95………………median = ____

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Step 3: Select a Performance Standard

A performance standard is a yardstick to measure baseline data   / Examples:

- Expert judgment
- Peer performance
- Instructional placement standards
- School policy/standards
- Developmental norms
- Medical standards
- Adult expectations (parents, teachers)
- Local CBM norms

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Step 4: Evaluate Data

- Does a discrepancy exist between the individual's performance and the chosen standard?
  - No = STOP
  - Yes = answer next questions
- Is the discrepancy large enough for you to implement an intervention to reduct it?
  - No = STOP
  - Yes = DO SOMETHING!

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Example: Don's PLOP

1. Collect the baseline data:
   - Don will weigh himself 3 times during a one week period (Mon, Wed, Fri)
   - Results: 217, 215, 214
2. Summarize baseline data:
   - Find median level of weight
   - Median = 215 lbs
3. Select a performance standard
   - 190 lbs is maximum weight for height
4. Evaluate baseline data
   - Is there a discrepancy?
     - Yes….215 lbs vs. 190 lbs
   - Large enough to warrant intervention?
     - Yes…25 lbs. overweight

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Example: Sandy's PLOP

1. Collect the baseline data:
   - Mrs. Henry will use 3 grade level reading probes to assess Sandy's oral reading flency. One probe will be given on 3 consecutive days
   - Results: 7, 14, 12
2. Summarize baseline data:
   - Find median level of performance
   - Median = 12
3. Select a performance standard
   - Class median performance is 112 words per minute
4. Evaluate baseline data
   - Is there a discrepancy?
     - Yes….12 wpm vs. 112 wpm
   - Large enough to warrant intervention?
     - Yes..100 wpm

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Describe PLOP for Your Case

1. Collect the baseline data
2. Summarize baseline data
   - Find median level of performance
   - Median =
3. Select a performance standard

4. Evaluate baseline data
   - Is there a discrepancy?

   - Large enough to warrant intervention?

Writing a PLOP Statement

- Include:
  - Description of the strengths relevant to the presenting problem
  - Description of the problem academic, non-academic, and/or transition areas
  - The baseline performance:
    - The performance standard selected/applied
    - General statement of the expectation for change
    - Other information relevant to the presenting problem

PLOP Statement: Sandy

- Sandy enjoys reading, however, she currently reads third grade passages at a rate of 12 WPM. To be at grade level, Sandy is expected to read 112 WPM, which is at the 50th percentile.

Write a PLOP Statement for Your Case

- Write the PLOP statement for *your* case on the RTI Team PROBLEM SOLVING Intervention Plan (I-Plan)

D – Component: Problem Analysis

- Problem analysis is the process used to examine probable explanations for the discrepancy between what the individual is expected to do and what the individual is doing.

- Why a discrepancy????

Problem Analysis is:

- Data based
- Question oriented
- Multi-dimensional
- Focused
- Collaborative
- Based on sound procedures
- Leads to an intervention
- In fact……..if done well………an intervention usually falls into your lap!

Problem Analysis Actions:

1. Clarify problem as skill or performance
2. Reconsider the four domains
3. Organize and review existing information
4. Examine probable explanations for the discrepancy and possible solution
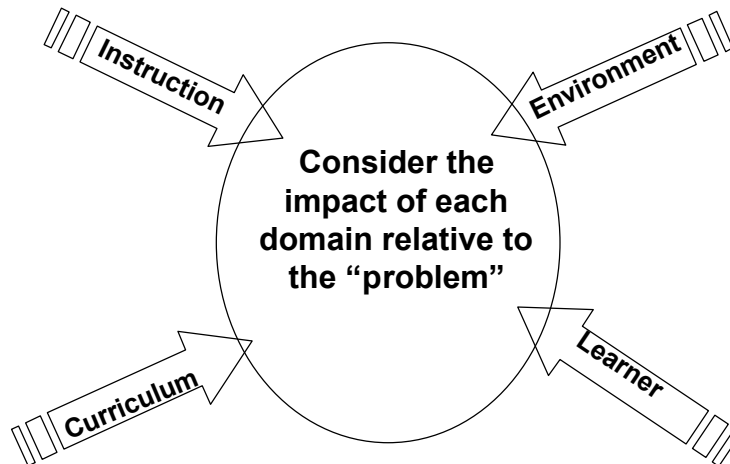

Step 1: Clarify problem as skill or performance

- Example: Jeremy has a reading problem:
  - Jeremy's median score for retelling details is 2. peers retell a median of 5 details.
- Skill
  - Needs additional instruction, practice & feedback
  - Early acquisition of a skill
- Performance
  - Can retell details
  - Doesn't care if retells details
  - Topic is uninteresting to him
  - Thinks it is stupid
  - Errors are not attended to.

Step 2: Reconsider the 4 ICEL Domains

Instruction

Environment

Curriculum

Learner

Consider the impact of each domain relative to the "problem"

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Step 3: Organize and review existing information

- Why is this problem situation occurring?

- What factors are contributing to the mismatch that exists between actual and desired levels of performance for each problem?

- What resources are available to help resolve this problem situation?

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Step 4: Examine probable explanations for the discrepancy and possible solution

Apply this format:

Problem analysis shows that
if_____ is the problem,
     (behavior)
then _____ will/should
     (intervention)

_____

(effect/outcome/results upon "problem"

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Problem Analysis for Don

Problem analysis shows that

if___poor diet/lack of exercise___ is the problem,
     (behavior)
then proper diet and exercise___ will/should
     (intervention)
     decrease body weight
(effect/outcome/results upon "problem"

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Write a problem analysis statement for your case and enter on I-Plan

Apply this format to your case:

Problem analysis shows that
if_____ is the problem,
      (behavior)
then _____ will/should
      (intervention)

_____
(effect/outcome/results upon "problem"

The **IDEAL**
Problem Solving Process

✓**I** - Identify the Problem

✓**D** - Define the Problem

• **E** - Explore Intervention Options

• **A** - Act on the Intervention Plan

• **L** - Look at Results

I - Identify the Problem

- A "problem" is a general statement about a student's presenting concern

I – Components:

- Data Review
- Collaborative consultation
- Behavioral definition

D – Component: Present Levels of Performance (PLOP)

- Present Levels Of Performance (PLOP) describes an individual's baseline level of performance in a target behavior (academic or behavioral) at a specific point in time.

- Example:
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The **IDEAL**
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✓**I** - Identify the Problem

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I - Identify the Problem

- A "problem" is a general statement about a student's presenting concern

I – Components:

- Data Review
- Collaborative consultation
- Behavioral definition

D - Define the Problem

- **D** – Components:

- Measurement Strategy

- Present Level of Performance

- Problem Analysis

E - Explore Intervention Options

- **E** – Components:

1. Write a goal
2. Brainstorm interventions

Exploring Interventions

- After defining the problem the team must brainstorm intervention solutions having the best probability of success.
- To do so, the team first writes a measurable goal consistent with previous decision-making
- Prioritizes interventions/accommodations to be implemented, and makes a decision
- Summarizes what they are going to do

"What is the Goal?"

- The goal is the intended outcome of the intervention; the direction and extent to which the target behavior is to be changed.

- It takes into account a student's present level of performance (PLOP)
- Precedes & defines the system of monitoring progress

Benefits of Goal Writing

- Determines whether the individual is making improvement
- Guides decision-making relative to intervention activities
- Determines the relative effectiveness of an intervention or instructional program
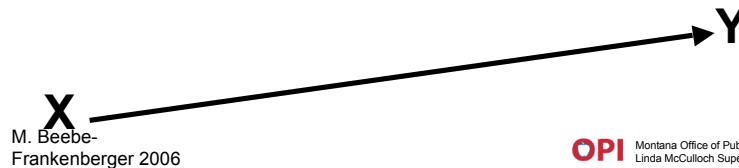
Y

X

A Goal Statement Should Include:

- **Conditions** – time frame, situation/setting, materials used – measurement materials

- **Student's Name**

- **Behavior** – description of the task to be performed, what the student is expected to do

- **Criterion** - represents a criterion for acceptable performance/behavior (CAP)

Conditions

- **Academic**
- Date by or timeline in which goal is to be achieved
- Description of the material(s) to be used
- Description of difficulty level

- **Non-Academic**
- Date by or timeline in which goal is to be achieved
- Setting in which behavior is to be displayed
- Stimuli to elicit behavior

Example: In 9 weeks using 3rd grade CBM Math probes……

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Behavior/Performance

- Behavior performance is the description of the task to be performed

- It may be the targeted behavior

- Or

- It may be the replacement behavior

Example: will score 35 correct digits per minute

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Performance Standards

- Peer performance
- Criteria for next environment (e.g. grade)
- Instructional placement standards
- School policy/standards
- Developmental norms
- Medical standards
- Adult expectations (parents, teachers)
- Local CBM norms

General Characteristics of Acceptable Goals……

- Are SMART

- **S**pecific
- **M**easurable
- **A**mbitious
- **R**ealistic
- **T**ake into account the Gen Ed curriculum

Set Ambitious Goals

- Identify starting "correct words per minute" (CWPM = 30)
- Identify end of year grade level target (CWPM=90)
- Subtract current CWPM from target and determine whether this is a realistic target (90-30=60 CWPM, highly ambitious goal)
- Set goal and define weekly learning targets (i.e. amount of growth/number of instructional weeks)
- Monitor progress over time.

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Oral Reading Fluency Weekly Progress Data
(Fuchs, Fuchs, Hamlett, Walz & German, 1993)

	# Students	Words pr wk Improved	Minimum progress	Maximum progress
Grade 1	9	2.10	.35	4.97
Grade 2	25	1.46	.71	4.00
Grade 3	15	1.08	.43	2.43
Grade 4	16	.84	.47	1.41
Grade 5	20	.49	.04	1.12
Grade 6	23	.32	-.22	.97

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Criterion for Acceptable Performance (CAP)

- The criterion represents an acceptable level of behavior

- It is used to measure the effectiveness of intervention

- Sets the standard for evaluation

Example: will complete 100% of work with 80% accuracy for two consecutive weeks

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Selecting a Criterion

- The criterion needs to:
  - Be different and acceptable for each individual
  - Represent the selected performance standard
  - Represent a reasonable level of performance
  - Reflect the nature of the skill
  - Reflect the nature of the individual
  - Reflect the number of learning opportunities
  - Reflect the nature of environmental, instructional and curricular conditions.

Don's Goal

- Conditions (time frame, materials, setting)
- Student's Name
- Behavior (what we expect)
- Criterion (standard for expected performance)

- Goal:
- In 9 weeks, using the bathroom scale as the measuring tool, Don will weight 190 lbs. and maintain this weight until after physical exam.

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Sandy's Goal

- Conditions (time frame, materials, setting)
- Student's Name
- Behavior (what we expect)
- Criterion (standard for expected performance)

- Goal:
- In 9 school weeks, using 3rd grade CBM reading probes, Sandy will read orally at a median rate of 50 words correctly for 2 consecutive weeks.

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Your Case: Write a Goal

- **Conditions** (time frame, materials, setting)
- **Student's Name**
- **Behavior** (what we expect)
- **Criterion** (standard for expected performance)

- **Goal:**

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Brainstorm Interventions

- Interventions are:
  - Linked to a GOAL: the behavior/performance will change relative to the goal set by the team.
  - Systematic/Planful: the procedures to be applied are specified clearly and completely
  - Environmentally Focused: the actions taken modify the environment, not *only* upon the student

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Some Examples of Interventions:

- Using corrective reading
- Teaching student how to initiate peer interaction
- Instructing in following directions
- Using strategies for sentence writing
- Teaching strategies for test taking
- Providing positive reinforcement for corrective behavior

Interventions are not……..

- Accommodations
- Adaptations
- Interagency referrals
- Special education settings
- Assessments, evaluations, screenings
- Classroom observations
- Advice or consultations
- Assisting with instructional methods and materials
- Places

Defining differences in………

- **Accommodations** are supports or services provided to help a student access the general curriculum provided.
- **Adaptations** are changes made to the content and performance expectations for students
- **Interventions** require direct instruction and data collection for the area of concern

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Identify the interventions……

- Student attends resource room for reading.
- Student is instructed how to divide single digit problems
- Teacher requests the student be evaluated for ADD
- Student is referred for testing with the psychologist
- Student is observed in the classroom
- Student is reinforced for sitting in her seat

The Team process for Developing an Intervention

1. Brainstorm
2. Clarify
3. Advocate
4. Canvass

Source: Garmston & Wellman, 1998

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Brainstorm

- Record brainstorm ideas
- Elicit ideas only
- Discourage criticisms or questions (no judgment)
- Push for between 6-8 ideas

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Clarify

- Ask if any ideas need to be clarified.
- The author of the idea provides the clarification.
- The facilitator observes the questioner during clarification and stops the clarification when questioner indicates nonverbally or otherwise that he/she understands.

Advocate

- Participants may advocate for as many items as they wish and as many times as they wish.
- Statements of advocacy must be phrased in the positive.
- Statements of advocacy must be brief

Canvass

- Ask RTI team members to identify which few (between 2-4) of the ideas they feel are most important.
- The ideas they feel are the most important do not need to be placed in rank order.
- Take a hand count (vote) to determine which ideas are of greatest interest to the group.

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Let's practice together: Explore Intervention Options for Don

Don's Goal:
- In 9 weeks, using the bathroom scale as the measuring tool, Don will weight 190 lbs. and maintain this weight until after physical exam.

1. Brainstorm
2. Clarify
3. Advocate
4. Canvass

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Your Case:
Explore Intervention Options

_____'s Goal:

.

1. Brainstorm   Results:
2. Clarify
3. Advocate
4. Canvass

A - Act on the Intervention Plan

- **A** – Components:

  - 1.   Implementation

  - 2.   Monitoring

Acting on the Plan

- The RTI team now needs to:
  - Identify the settings where intervention implementation will occur.
  - Define the "Implementation Component" or What, When, and by Whom?
  - Define the "Monitoring Component" or evaluation procedures, schedules, and decision rules they will use.

"A goal without a plan is just a wish"

What is the Implementation Component?

- The implementation component is the record of what the team members need to do in preparation for implementing the intervention plan.

Writing the Implementation Component

- Decide and record WHAT steps/sequence needs to be taken in order to implement the intervention plan.

- Decide and record WHEN each step needs to be completed.

- Decide and record WHO will be responsible for each step.

Seeing: Where/Context of the Intervention?

- General education setting?
- Special education setting?
- Combination/integrated setting?

- Consider: The setting is determined by the intervention, not the other way around

Sandy's Implementation Component

What will be done?	When?	By Whom?
Phonemic Segmentation instruction	Daily	Joan
Reading Mastery	As indicated	3rd gr teacher
Home practice	Daily	Parents
Repeated reading fluency	As indicated	Joan

Your Case
Implementation Component

What will be done?	When?	By Whom?

Monitoring Component: How do we know our intervention is working?

- The monitoring component is a record of the evaluation procedure and the decision rule.

- How the monitoring is to be done
- By whom is it going to be done

    and

- What rules will be used to determine how to proceed with the selected intervention components

Monitoring system must match the characteristic of the behavior

- Curriculum Based Measurement (CBM) – fluency of basic skills (reading, math, writing, etc.)
- Mastery Monitoring – task analyzed skills
- Goal Attainment Scaling – establishes a range of student outcomes
- Performance Monitoring – direct measure of specific skills

What is Curriculum Based Measurement (CBM)?

- CBM is a general outcome measure developed around a simple set of standardized procedures based upon grade level curriculum, used for *repeatedly measuring* and evaluating student's progress over time.

What is Goal Attainment Scaling?

- Goal Attainment Scaling involves establishing and specifying a range of outcomes that would indicate progress toward achieving those goals.

What is Mastery Monitoring?

- Mastery monitoring is the evaluation of progress on short-term objectives or skills. Mastery monitoring means monitoring student mastery of a series of hierarchical objectives over time. The objectives collectively led to a terminal behavior.

What is Performance Monitoring?

- Performance monitoring is the direct measurement of a target behavior that has been defined for a particular student. A measurement strategy is developed, and a decision making plan is established. Performance monitoring relies on a well defined behavior based on student performance and the setting.

What is an Evaluation Procedure?

- An evaluation procedure refers to how you are going to monitor progress

- Answers:

- What materials?
- How frequently?
- How much data?
- When date will be reviewed?

How to Monitor Student Progress?

- Collect data and GRAPH!
  - (See blank graph handout)
- Benefits of using a graph:
  - Creates a learning picture
  - Allows for decision making
  - Helps predict learning
  - Provides documentation
  - Makes data easier to interpret

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What are Major Graphing Features?
(refer to blank graph form)

- Vertical lines are day lines
- Thick vertical lines are Monday lines
- Horizontal lines (dots) are counting/data lines.
- You must plot the junction of the day and the data on one dot.
- Baseline depicts performance before an intervention
- Aimline tells you the expected rate of learning
- Trendline tells you how the student is currently doing.
- Use a phaseline when you make a change in the intervention of a goal.
- The Y (vertical) axis depicts performance
- The X (horizontal) axis depicts time/categories/nominal data

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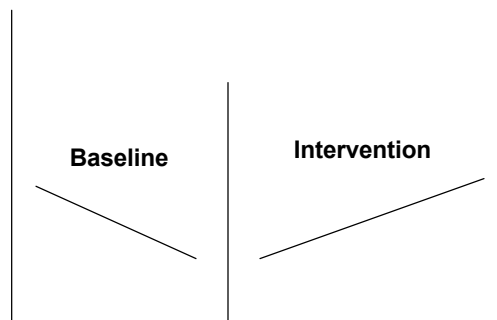Linda McCulloch Superintendent   www.opi.mt.gov

Other Graphing Conventions?

- Usually connect all data points (unless there is a break of longer than one week)
- Record absences in data boxes (below graph)
- Mark vacations with double vertical lines

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Graphing the Baseline: Before Intervention

Baseline   **Intervention**

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Baseline Data Should Be:

- Stable
  - Three measures or more
  - Collected in the appropriate settings
  - Collected in a relatively short period of time

- Representative
  - Teacher says is "typical"
  - Accurately describes behavior as it naturally occurs.

The "Aimline"

- Shows the expected/predicted rate of learning from your baseline to your goal
- **Goal for Sam:**
- In 18 weeks, when presented with random 2nd grade reading passages, Sam will read aloud at a rate of 73 wpm for 3 of 5 trials.
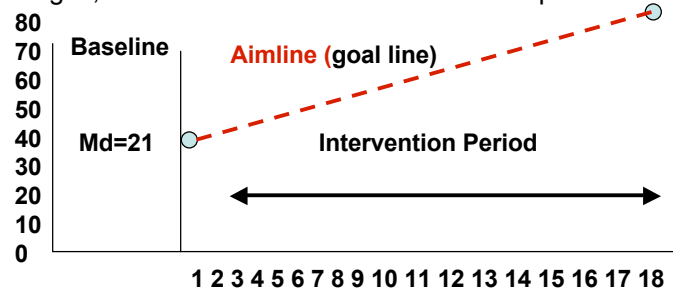
Practice: Draw an Aimline

Don's Goal:

- In 9 weeks, using the bathroom scale as the measuring tool, Don will weight 190 lbs. and maintain this weight until after physical exam.

Baseline data:

- Don will weigh himself 3 times during a one week period (Mon, Wed, Fri)
- Results: 217, 215, 214

Summarized baseline data:

- Find median level of weight
- Median = 215 lbs

What is a Data Decision Rule?

- A decision rule is the systematic procedure by which patterns of data are analyzed. This data analysis assists in making a decision about the effectiveness of an intervention.

Why Decision Rules?

- How do you know when to continue or modify an intervention?
- Do you have unlimited time to continue with interventions that are not working?
- Should we know if interventions are working or not?
- Would you like to know which things work and which things don't work for your students?

What Rules Can We Use for Making Decisions?

- Option I: Moving Median
  - Decision is made when 3 *consecutive* data points fall above or below the aimline.
- Option II: Three-Day
  - Decisions is made after 3 data points (medians)
- Option III: Split-Middle Trend Analysis
  - Decision is made after 9 data points which results in a trendline to compare to the aimline.

Option I: Moving Median

- **In this option, medians of 3 weeks of data are plotted and the number of data points above or below the aimline are used to determine if the individual is achieving as predicted.**

    - Administer 1 probe each week for 3 weeks and record the raw data below the graph.
    - Each data point will always be the median score.
    - The moving median is a method for graphing the median of our 3 *newest* scores.
    - The moving median is a quick and easy method which reduces variability and eliminates the need for a trendline.

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How is the Moving Median Graphed?

- 1. draw the aimline
- 2. Enter data/plot 1 median probe per week for 3 weeks and record the raw data below the graph
- Each week, plot the median of your 3 newest scores.

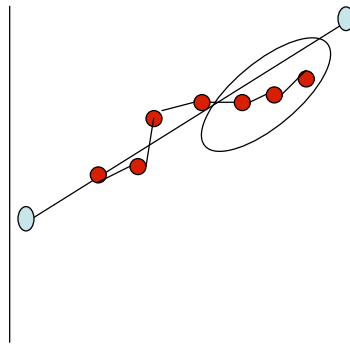- *each data point will always be a median score (3-5 measures/median)

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Option I: Moving Median

- 3 Decision Rules

- 1. If three (3) consecutive data points are *above* the aimline, raise the criteria
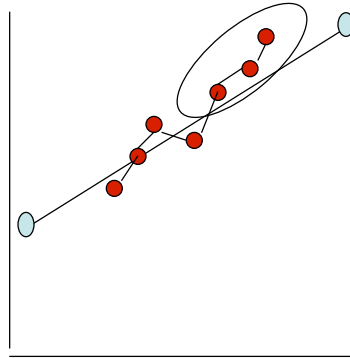
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Option I: Moving Median

- 3 Decision Rules

- 2. If three (3) consecutive data points are *below* the aimline, change the intervention (dosage, or content)
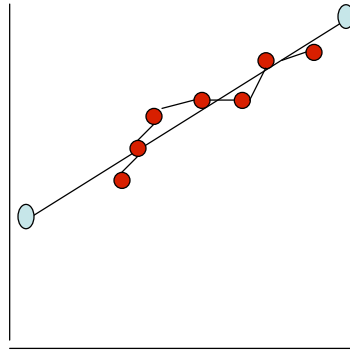
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Option I: Moving Median

- 3 Decision Rules

- 3. If neither of the above rules apply, make no change

Option II: Three Day (Medians)

- In this option, after an aimline is drawn, medians are plotted on the graph and 3 data points are used to tell if the individual is achieving as predicted. (5-7 data points are preferred according to Ulman & Shindel)

- Decision rules for "ascending" aimlines:
    - 1. If 3 consecutive data points are above the aimline, raise the criteria.
    - 2. If 3 consecutive data points are below the aimline, change the intervention.
    - 3. If neither of the above rules apply, make no change.

Option II: Three Day

Performance Indicator

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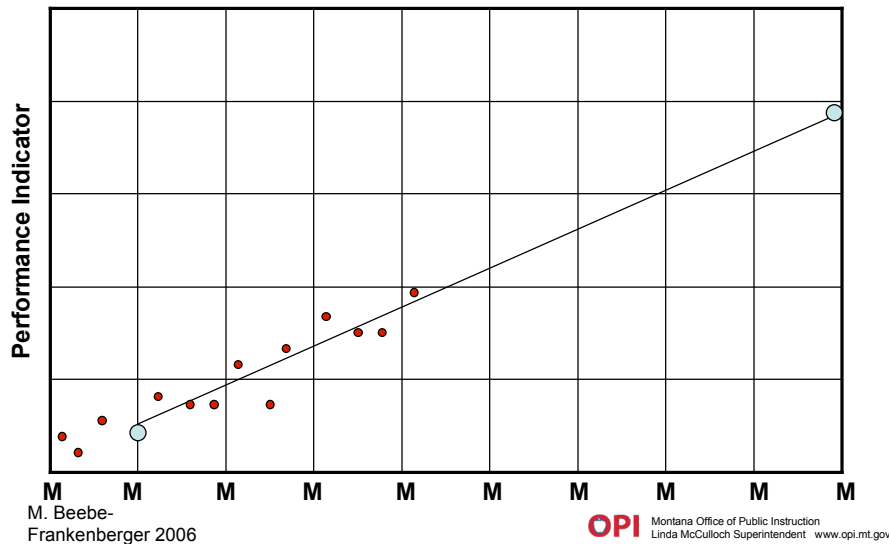
Things to Consider in Decision Making

- Focus on the question: "will the student reach his/her goal by the end of the goal period?"

- Decide to change an intervention whenever the rate of progress falls below the expectation.

- Think of changes in instruction as fine tuning rather than major reconstruction of lessons.

- Use one or two decision making rules.
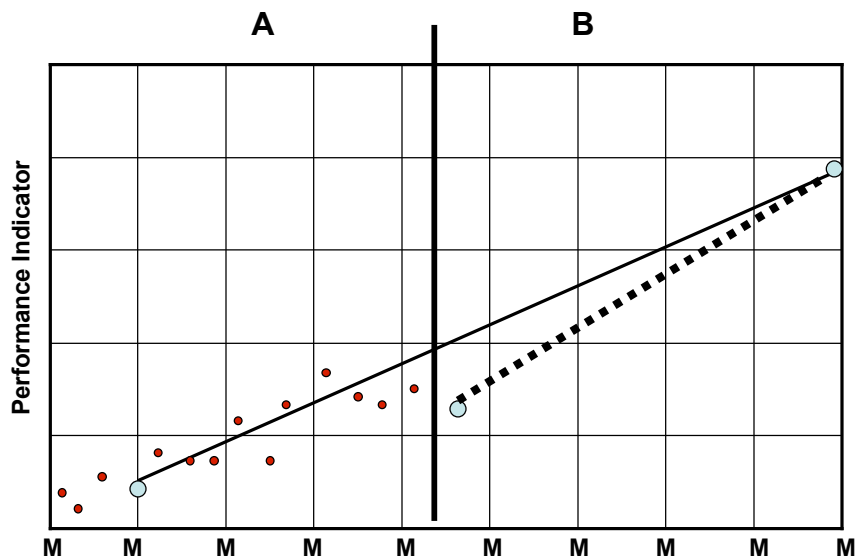
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Changes in Intervention

- 1. Draw a phase line.

    a phase line is drawn vertically on the graph to identify the beginning point where the intervention change occurs.

- 2. Establish a new aimline.
    - Find the median of the last 3-5 data points to establish a new baseline. Connect the new baseline median point to the criterion.

Drawing a Phase Line

Practice Graphing and Decision Making Rules

- Option I "moving median"
- Don's progress monitoring data:
- Intervention week   data points
  - 1   215 212 211
  - 2   212 209 210
  - 3   208 209 209
  - 4   207 205 208
  - 5

L - Look at Results

- Look at, Analyze, and Reflect upon results

- Results or outcomes of the interventions are the critical and the ultimate criteria of success for both the efforts of the team and, most importantly, describe the degree to which the student has benefited.

L - Look at Results: Elements necessary to determine effectiveness

- Team considers the available monitoring data relative to the goal to determine the rate of growth.

- Team writes a "narrative summary" of the effects of intervention as measured by the ongoing progress monitoring data. This should reflect the process of providing the intervention, e.g. success, changes, barriers, etc.

L - Look at Results: Elements necessary to determine effectiveness

- Team makes decisions to continue, change, stop or make other decisions relative to the intervention and results. All decisions are data-driven and guided by the needs of the student as well as the capacities and resources of the setting.
- The parent and student (as appropriate) should always be involved in this process including their perceptions and ideas.

Exercise in Looking at Results

- With a partner, examine the progress monitoring graphs of "Hiram" and "Mary Ann". Determine if decision rules for the "moving median" were followed and what next step you would recommend as part of the outcome evaluation.
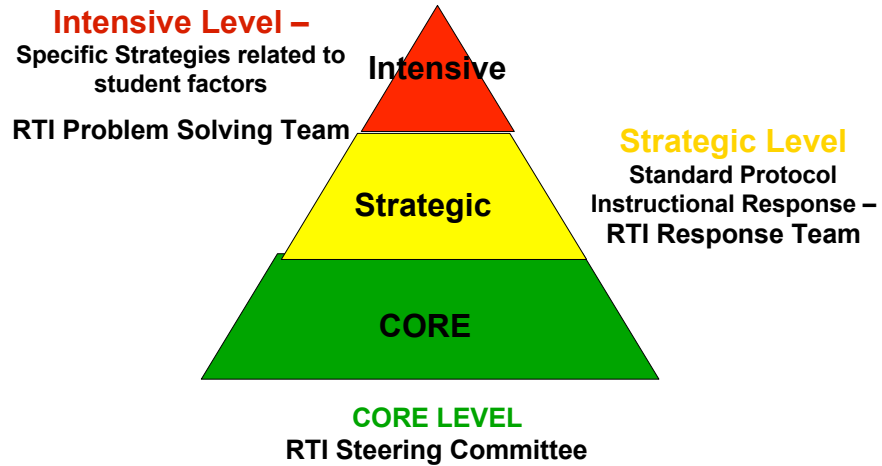
Your School Team Structure

- Revisit Pre-referral team forms from February
- Identify changes to convert to RTI teams
- Identify "next steps" in RTI PS Teams

- How do you conceptualize the RTI team structure at your school?

RTI Team Structure

Intensive Level –
Specific Strategies related to
student factors

RTI Problem Solving Team

Intensive

Strategic Level
Standard Protocol
Instructional Response –
RTI Response Team

Strategic

CORE

CORE LEVEL
RTI Steering Committee

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